In the Claims:

Claims 1-36 (CANCELLED)

37. (ORIGINAL) A method of operating an ignition system of a vehicle having an electronic engine control (EEC) comprising the steps of:

monitoring the temperature of an ignition module that receives a spark output (SPOUT) signal from an electronic control assembly (ECA) and generates a control signal to an ignition coil for switching ON and OFF the primary current therein; and

reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil and reducing the heat generated by the ignition module when a temperature threshold for the ignition module has been exceeded.

38. (ORIGINAL) A method according to claim 37 and further comprising the step of generating the control signal from a microprocessor positioned within the ignition module.

39. (ORIGINAL) A method according to claim 37 and further comprising the step of generating a profile ignition pickup (PIP) signal indicative of a crankshaft position and engine RPM to the electronic control assembly (ECA).

40. (ORIGINAL) A method according to claim 37 and further comprising the step of mounting the ignition module on a distributor of the vehicle.

41. (ORIGINAL) A method according to claim 37 and further comprising the step of reducing the duty cycle from about 5% to about 15%.

42. (ORIGINAL) A method according to claim 37 and further comprising the step of transmitting a profile ignition pickup (PIP) signal to the ignition module.

43. (ORIGINAL) A method according to claim 37 and further comprising the step of comparing the spark output (SPOUT) signal with a profile ignition pickup (PIP) signal within the ignition module to determine a timing interval for switching ON and OFF the primary current within the ignition coil.

44. (ORIGINAL) A method according to claim 37 and further comprising the step of sensing temperature within the ignition module for determining when the temperature threshold for the ignition module has been exceeded.

45. (ORIGINAL) A method according to claim 37 and further comprising the step of sensing current within a temperature sensing circuit for determining when the temperature threshold has been exceeded.

46. (ORIGINAL) A method according to claim 45 wherein the temperature sensing circuit comprises a temperature sensing resistor.

47. (ORIGINAL) A method according to claim 46 and further comprising the step of rectifying a signal that passes through the temperature sensing resistor using a reference diode for establishing a temperature control signal to the microprocessor that is linear with temperature change in the ignition module.

48. (ORIGINAL) A method of operating an ignition system of a vehicle having an electronic engine control (EEC) comprising the steps of:

monitoring the temperature of an ignition module that receives a signal from an electronic control assembly (ECA) and generating a control signal to an ignition coil for switching ON and OFF the primary current therein; and

reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil and reducing the heat generated by the ignition module when a temperature threshold for the ignition module has been exceeded.

49. (ORIGINAL) A method according to claim 48 and further comprising the step of generating the control signal from a microprocessor positioned within the ignition module.

50. (ORIGINAL) A method according to claim 48 and further comprising the step of generating a profile ignition pickup (PIP) signal indicative of a crankshaft position and engine RPM to the electronic control assembly (ECA).

51. (ORIGINAL) A method according to claim 48 and further comprising the step of mounting the ignition module on a distributor of the vehicle.

52. (ORIGINAL) A method according to claim 48 and further comprising the step of reducing the duty cycle from about 5% to about 15%.

53. (ORIGINAL) A method according to claim 48 and further comprising the step of transmitting a profile ignition pickup (PIP) signal to the ignition module.

54. (ORIGINAL) A method according to claim 48 and further comprising the step of comparing the spark output (SPOUT) signal with a profile ignition pickup (PIP) signal within the ignition module to determine a timing interval for switching ON and OFF the primary current within the ignition coil.

55. (ORIGINAL) A method according to claim 48 and further comprising the step of sensing temperature within the ignition module for determining when the temperature threshold for the ignition module has been exceeded.

56. (ORIGINAL) A method according to claim 48 and further comprising the step of sensing current within a temperature sensing circuit for determining when the temperature threshold has been exceeded.

57. (ORIGINAL) A method according to claim 56 wherein the temperature sensing circuit comprises a temperature sensing resistor.

58. (ORIGINAL) A method according to claim 57 and further comprising the step of rectifying a signal that passes through the temperature sensing resistor using a reference diode for establishing a temperature control signal to the microprocessor that is linear with temperature change in the ignition module.

59. (ORIGINAL) A method of operating an ignition system of a vehicle having an electronic engine control (EEC) comprising the steps of:

generating a control signal from a microprocessor positioned within an ignition module to an ignition coil for switching ON and OFF the primary current therein; and

reducing the duty cycle as applied to the control signal from the microprocessor to the ignition coil and reducing the heat generated by the ignition module when a temperature threshold for the ignition module has been exceeded.

60. (ORIGINAL) A method according to claim 59 and further comprising the step of mounting the ignition module in a housing.

61. (ORIGINAL) A method according to claim 59 and further comprising the step of generating a profile ignition pickup (PIP) signal indicative of a crankshaft position and engine RPM to the electronic control assembly (ECA).

62. (ORIGINAL) A method according to claim 59 and further comprising the step of mounting the ignition module on a distributor of the vehicle.

63. (ORIGINAL) A method according to claim 59 and further comprising the step of reducing the duty cycle from about 5% to about 15%.

64. (ORIGINAL) A method according to claim 59 and further comprising the step of transmitting a profile ignition pickup (PIP) signal to the ignition module.

65. (ORIGINAL) A method according to claim 59 and further comprising the step of comparing the spark output (SPOUT) signal with a profile ignition pickup (PIP) signal within the ignition module to determine a timing interval for switching ON and OFF the primary current within the ignition coil.

66. (ORIGINAL) A method according to claim 59 and further comprising the step of sensing temperature within the ignition module for determining when the temperature threshold for the ignition module has been exceeded.

67. (ORIGINAL) A method according to claim 59 and further comprising the step of sensing current within a temperature sensing circuit for determining when the temperature threshold has been exceeded.

68. (ORIGINAL) A method according to claim 67 wherein the temperature sensing circuit comprises a temperature sensing resistor.

69. (ORIGINAL) A method according to claim 68 and further comprising the step of rectifying a signal that passes through the temperature sensing resistor using a reference diode for establishing a temperature control signal to the microprocessor that is linear with temperature change in the ignition module.